Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1. (previously presented) Method for estimating the quantity of CO₂ present in a geologic formation (20) comprising the following steps:
 - said formation is penetrated by a well (10) drilled from the surface,
- said formation is contacted with a drilling fluid having a pH greater than 8 that travels from the formation to the surface,
- a given quantity of return fluid is sampled at the surface and transferred to a cell (5),
 - the pH of said quantity of fluid is measured,
- a given quantity of product acidifying said fluid is added to adjust the pH to a value of less than 4,
 - the CO₂ level of the gas in the cell is measured after the acidification step,
- the quantity of CO₂ contained in the geologic formation is calculated from the CO₂ measurement.
- 2. (previously presented) Method according to Claim 1, wherein the quantity of carbonate supplied by the geologic formation and/or by the additives in the formulation of said fluid is taken into account.
- 3. (currently amended) Method according to one of Claims 1 or 2 Claim 1, wherein the pH is adjusted to approximately 2.

- 4. (currently amended) Method according to one of the foregoing claims Claim 1, wherein said gas is transferred by an inert gas scavenging the internal space of the cell.
- 5. (previously presented) Method according to Claim 2, wherein said additives are taken account by running the CO₂ measurement method on a given volume of initial fluid, i.e. before contact with the formation.
- 6. (currently amended) Method according to one of the foregoing claims Claim 1, wherein the sampling rate is determined according to the fluid travel rate.
- 7. (previously presented) Device for estimating the quantity of CO₂ present in a geologic formation (20) traversed by a well (10) in which a drilling fluid with a pH greater than 8 travels between said formation and the wellhead at the surface, characterized in that it comprises means (7) for sampling a given quantity of fluid at the wellhead, a cell (5) to hold said quantity of fluid, means (11) for measuring the pH in said cell, means (13) for inert-gas scavenging of the internal space of the cell, means (16) for injecting an acidifying product into said cell, and means (15) for measuring the quantity of CO₂ contained in the internal space of the cell.
- 8. (previously presented) Device according to Claim 7, wherein adjusting means control the acid injection means according to the pH measurement.

- 9. (currently amended) Device according to one of Claims-Claim 7-or 8, wherein the means for measuring the quantity of CO₂ comprise an infrared cell or a thermal conductivity measuring cell.
- 10. (currently amended) Device according to ene of Claims Claim 7-to 9, wherein control means carry out the following steps, at a rate determined by the fluid flowrate:
 - Sampling of a quantity of fluid;
 - Measurement of pH;
 - Injection of a quantity of acid;
 - Scavenging the cell space;
 - Measurement of CO₂;
 - Emptying the cell.
- 11. (currently amended) Device according to one of Claims Claim 7-to 10, including means for measuring the internal pressure (12) of said cell.
- 12. (currently amended) Device according to one of Claims Claim 7 to 11, including means for regulating the temperature of said cell.